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SURVEY PROTOCOL FOR FINDING CARACARA NESTS

This supplemental information is provided for further guidance on surveying for caracara nest based on the protocol in Morrison (2001). There is the highest probability of success in finding caracara nests during the period January to April. This period covers the time when most birds are feeding the nestlings and become more visible to observers. Surveys should start in January and continue through April to provide adequate data to conclude that a caracara nest does not occur on site. Once all nests on the site are found the survey can be terminated. Surveys should be conducted by a biologist with caracara experience as the birds can be hard to find and identify at long distances. The protective area for the caracara is 1,500 m (4,920 ft) around the nest. The area surveyed should include the project area and a 1,500-m buffer to account for off-site territories that might overlap onto the project area. All areas of suitable habitat within the project area and buffer should be initially surveyed for 1 day. If the area is large or the view obstructed more than 1 day or multiple observers may be needed to completely survey the area.

The observer should position themselves in a location where the largest open area (unobstructed by trees) can be viewed. The survey area should be no more than about 500 ha, which is the largest area easily observable from one point. An aerial photograph of the property and buffer zone can be used to identify areas of suitable habitat and map observation blocks to facilitate surveying the whole area. Use the map and a site visit to select strategic points where caracaras are more likely to be seen going to and from potential nesting sites. From a stationary position search for caracara activity, especially birds moving to the nest tree carrying sticks or food. Watch for other birds, such as American crows (*Corvus brachyrhynchos*), red-tailed hawks (*Buteo jamaicensis*), and turkey vultures (*Cathertes aura*), that might elicit an aggressive response from caracaras present. Nesting caracaras will often chase potential predators away from the nest; thus, revealing their presence. Also circling vultures can indicate the presence of naturally occurring carrion that may attract caracaras. If a potential nesting tree is detected then the observer can reposition to improve observing the bird's behavior. Weather condition should

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be adequate to clearly view the whole area. The area should be viewed from sunrise to 11AM and again 3 hours before sunset. During midday potential nest trees can be examined close up for evidence of nests (Morrison 2001). The area viewed during each survey should be marked on a site map. All caracara activity observed should be recorded by time of day and distinguished between juvenile and adult birds. Record flight direction to identify foraging areas and the nesting tree. Mark any nesting tree locations on a map and obtain GPS coordinates. Weather conditions including temperature, wind speed and direction, cloud cover, visibility, and precipitation, should be recorded at the start and end of each survey period.

If no nests are found during the initial survey then return and repeat the survey in 2 weeks. Continue to repeat the survey at a 2-week interval through the end of April or until a nest is found. If the survey starts after January and no nests are found the earlier part of the survey should be completed during the next nesting season to insure that early nesting birds are not missed.

The opportunity for caracara observation can be enhanced by placing fresh meat (or road kills) along the property border overnight and observing the bait site during the morning survey. These birds can be followed back to their nest trees. For more details on caracara activities and habits see Morrison (2001).

Literature Cited

Morrison, J.L. 2001. Recommended management practices and survey protocols for Audubon's crested caracaras (*Caracara cheriway audubonii*) in Florida. Technical Report No. 18. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida.